



## The Engineer's RF Source

$$\text{Width} = \frac{c}{2f_0 \sqrt{\frac{\epsilon_R + 1}{2}}}; \quad \epsilon_{eff} = \frac{\epsilon_R + 1}{2} + \frac{\epsilon_R - 1}{2} \left[ \frac{1}{\sqrt{1 + 12 \left( \frac{h}{W} \right)}} \right]$$

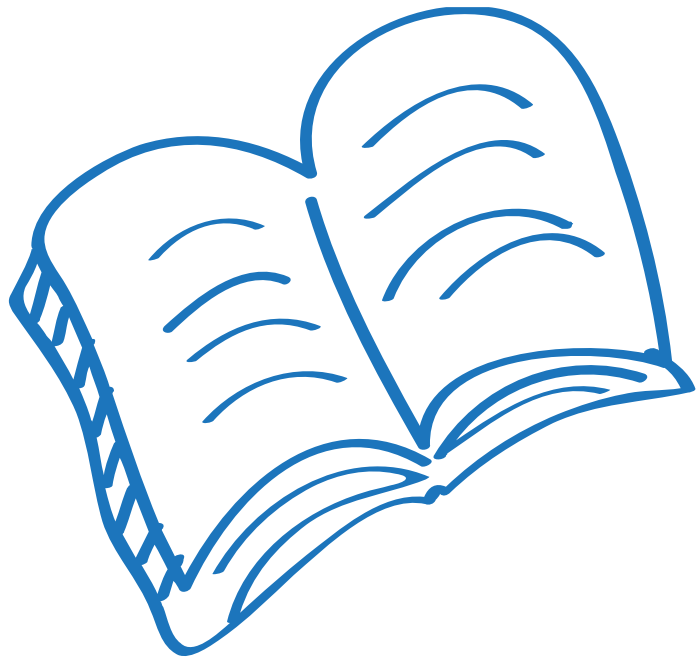
$$\text{Length} = \frac{c}{2f_0 \sqrt{\epsilon_{eff}}} - 0.824h \left( \frac{(\epsilon_{eff} + 0.3) \left( \frac{W}{h} + 0.264 \right)}{(\epsilon_{eff} - 0.258) \left( \frac{W}{h} + 0.8 \right)} \right)$$

$$R_1 = Z_0 \left[ \frac{1}{\frac{2\epsilon_R}{10^{-2}} - 1} \right]$$



---

# CONTENT



01. Introduction

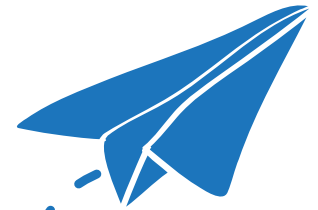
02. Pasternack's support

03. Highlight

---

# Introduction

01



# Infinite Electronics at a Glance

Operational Holding Company  
providing back office support to  
ten global, market-facing brands:



## Mission:

To globally support the needs of our customer with an urgent, differentiated level of service and high quality wired and wireless product solutions, while providing our employees with a rich, challenging, safe, work environment, and ensuring our stakeholders a market leading return on their investment.

## Our Vision:

To be the first answer to an engineers search for wired and wireless product solutions.

# Infinite Electronics at a Glance

**INFINITE<sup>e</sup>**  
ELECTRONICS, INC.

OPERATIONAL HOLDING COMPANY  
PROVIDES MANAGEMENT & SUPPORT TO

**10** GLOBAL BRANDS  
SERVING ENGINEERS  
CRITICAL NEEDS



GLOBAL REACH  
**110,000**  
CUSTOMERS  
**132**  
COUNTRIES



ENGINEERING GRADE PRODUCTS  
OVER **105,000**  
PART NUMBERS



TECHNICAL EXPERTISE  
**OVER 125**  
DEDICATED ENGINEERING  
PROFESSIONALS



 **TIME TO MARKET**  
OVER **2,000** NEW PRODUCTS  
ADDED TO OUR PORTFOLIO ANNUALLY

SERVICE & SUPPORT  
**99%**  
INQUIRIES RECEIVE  
SAME DAY RESPONSE



**24/7**  
WEB  
PRESENCE



ORDERS  
**96.4%**  
SHIPPED AS  
COMMITTED



**INFINITE<sup>e</sup>**  
ELECTRONICS, INC.

# Global Presence

*Serving a global customer base through 12 locations, including sales offices, logistic centers, and assembly facilities in North America, Asia and Australia*

★ Global Headquarters    ● Infinite Locations



*Global network of distribution partners ensures international customers have access to technical support, while conducting business in local language, currencies and customs*

**1,000+**  
Employees



**70+**  
Global Distribution  
Partners



**12**  
Global Locations



**17**  
Websites

**12**  
E-Commerce Sites



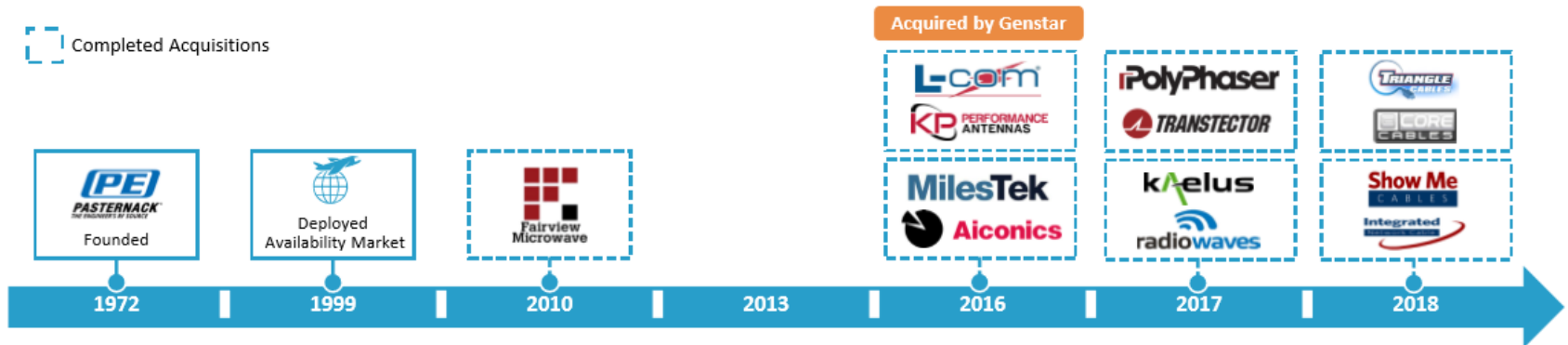
Brisbane | Chesterfield | Delray | Edmonton | Guaymas | Hayden | Irvine | Lewisville | N. Andover | Shenzhen | Suzhou | Tucson



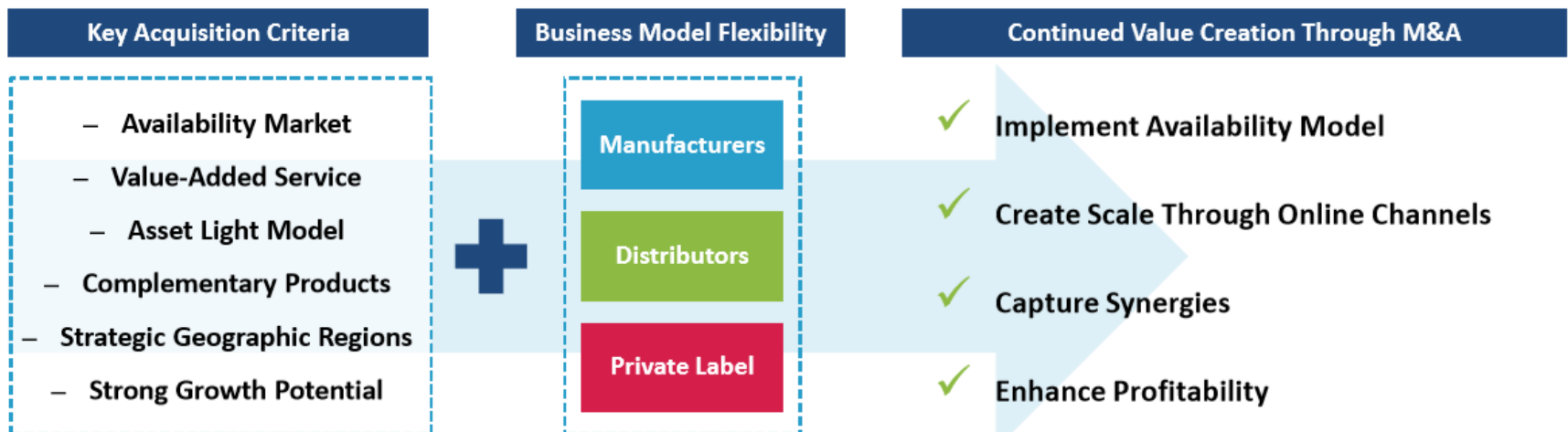
# Infinite Electronics Timeline

***Unique and proven ability to buy manufacturers, distributors and private label (successfully integrated all business models)***

## ACCELERATING HISTORICAL M&A GROWTH HAS EXPANDED TAM



## EXPANSIVE M&A PIPELINE FROM EXPANDED TAM (> 700 COMPANIES)



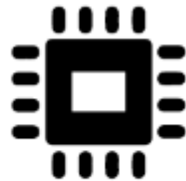
# Common Offering of Connectivity Solutions



## **RF Interconnects**

RF, microwave & millimeter wave interconnect components

- Adapters
- Cables
- Cable Assemblies
- Connectors
- Tools
- And More



## **RF Components**

RF, microwave & millimeter wave active & passive components

- Amplifiers
- Bias Tees
- Couplers
- DC Blocks
- Filters
- Power Dividers
- Switches
- Waveguides
- And More



## **Wired Connectivity**

Custom & standard data transfer products

- 1553 Data Bus
- Audio-Video
- Converters
- Ethernet Cabling
- Fiber Optic
- HDMI
- USB
- And More



## **Wireless Connectivity**

Carrier grade, 3G/4G Wi-Fi, backhaul & RFID solutions

- Antennas
- Cellular Amplifiers
- ISM Amplifiers
- Radios
- Surge Protection
- Wi-Fi Access Points
- Wi-Fi Routers
- And More



## **Industrial**

Industrial products designed for harsh environments

- Conversion Equipment
- NEMA Enclosures
- Network Equipment
- Power Over Ethernet
- Power Products
- Racks/Cabinets
- Test Equipment
- And More



# Infinite Availability Model

Availability business model and comprehensive product lines bring efficiency, convenience to customers



**Easy Approach**



**Comprehensive  
product  
selection**

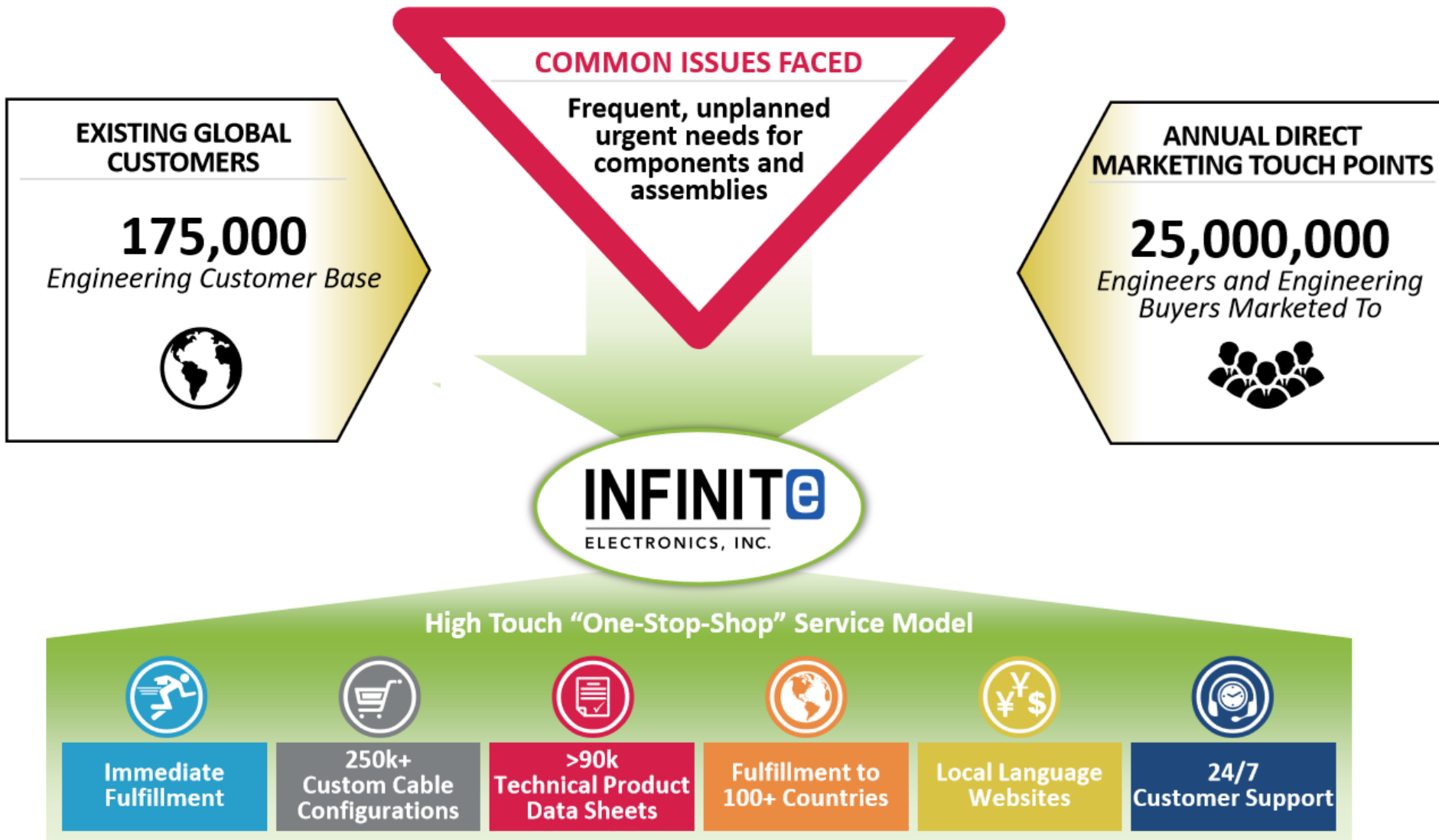


**Optimal  
Customer  
experience**

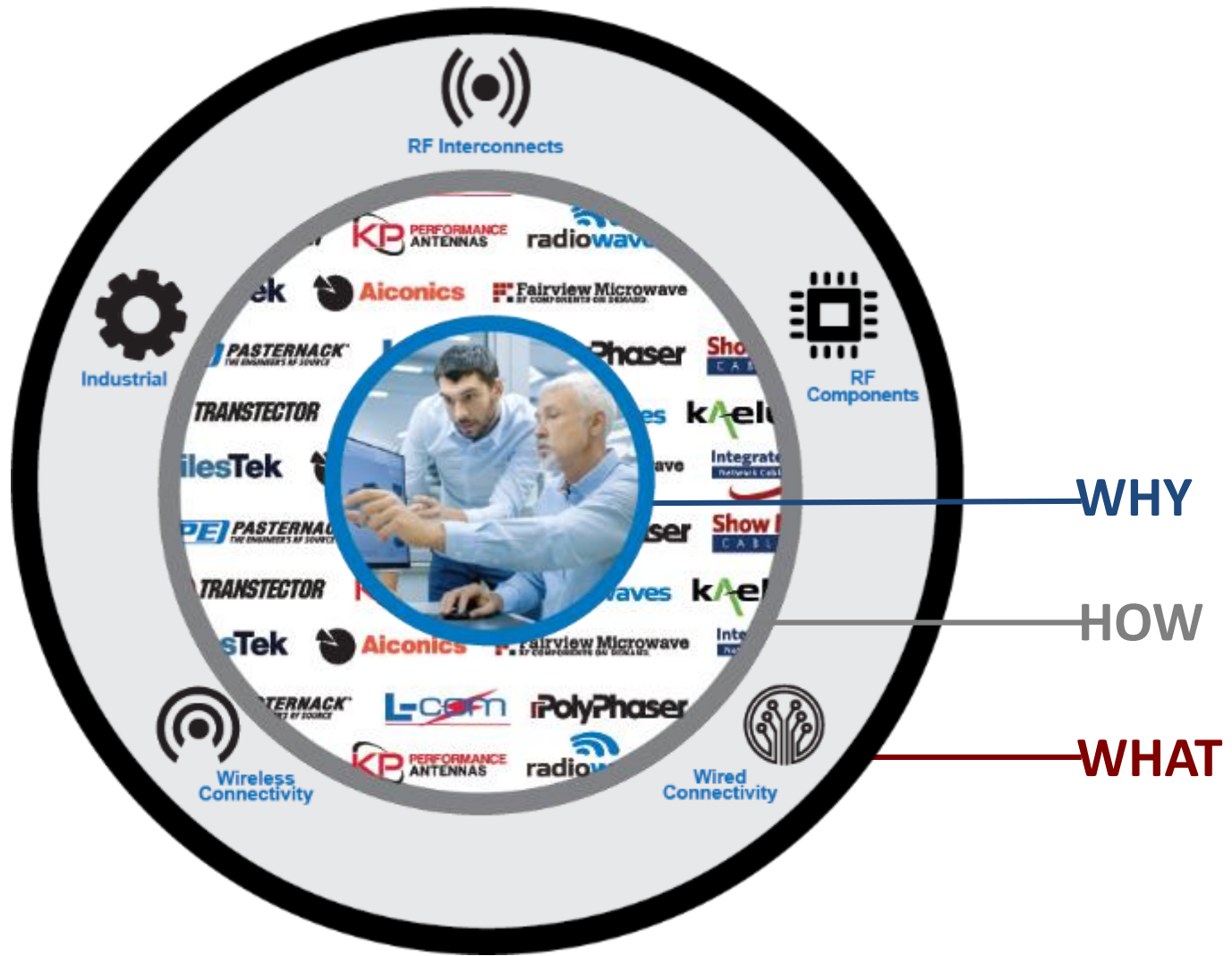


**Same-Day  
Service**

# Our Customer's Dilemma

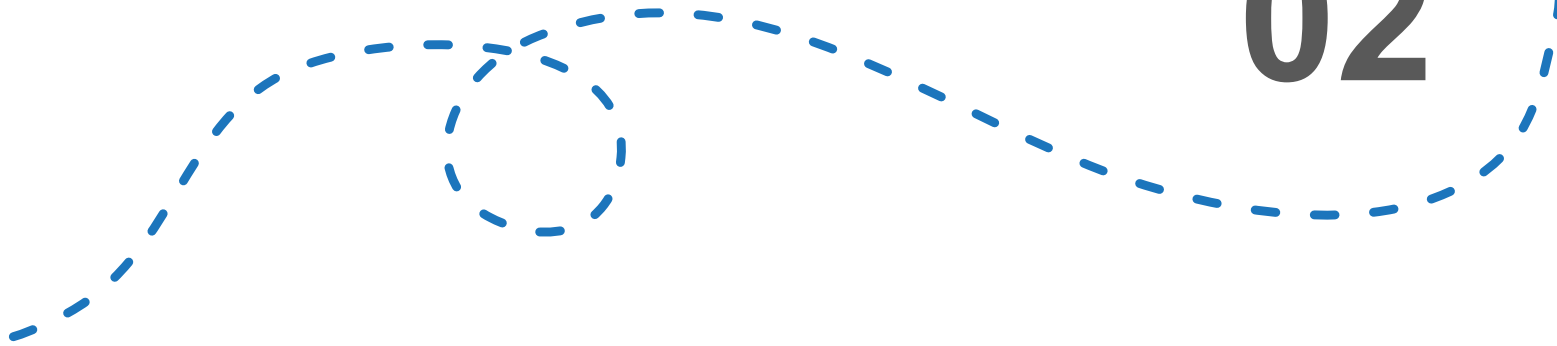
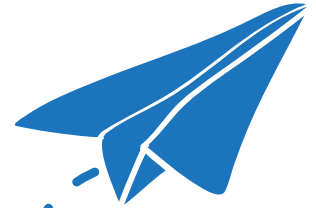


# Infinite - Why we do what we do...



# Pasternack's Support to RF Engineers out of Dilemma

02





# Who We Are



1

Over 40,000+ RF  
components in-stock  
and ready to ship worldwide

2

Same-day shipment for  
small volume,  
high mix demand

3

Intuitive and robust  
parameter search engine

4

No MOQ order requirements

5

Detailed, rich and industry  
leading technical  
specification sheets

6

Available inventory and  
pricing  
for optimal user experience



# Who We Are



**RF Institute**

**[www.Pasternack.cn](http://www.Pasternack.cn)**

**400 928 5100**



# Searching Engine



## Model / Key Word Search

# Category Selection

# Purchasing On-line



目录快速下单 | 登录 | 购物车 4

400 928 5100 QQ交谈

产品

资源

按部件编号或产品描述搜索 (英文)

搜索

主页 - 射频同轴衰减器 → 固定式衰减器 → 50欧姆固定式衰减器 → 50欧姆SMA固定式衰减器 → 20 dB Fixed Attenuator, SMA Male to SMA Female Passivated Stainless Steel Body Rated to 2 Watts Up to 6 GHz

50欧姆SMA固定式衰减器

50欧姆SMA固定式衰减器 (377)

20 dB Fixed Attenuator, SMA Male to SMA Female Passivated Stainless Steel Body Rated to 2 Watts Up to 6 GHz

产品编号PE7162-20



图片:



库存数量:

美国 722 中国 793 总计 1,515

Stock Quantity

价格表

数量	价格
1-24	¥233.77
25-49	¥217.41
50-99	¥201.04
100+	CALL

加入购物车

数量:

1

加入购物车

Price

点击这里



PE7162-20数据

点击这里



PE7162-20 RoHS状态

点击这里



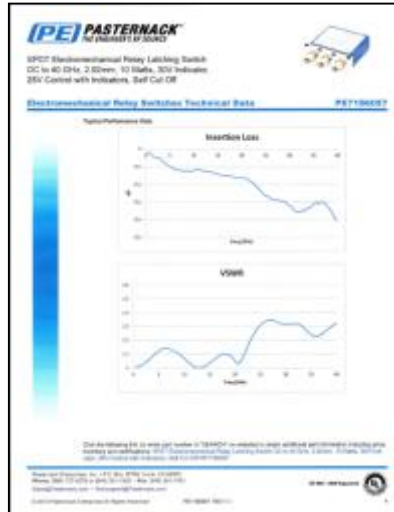
PE7162-20 REACH状态

Datasheet

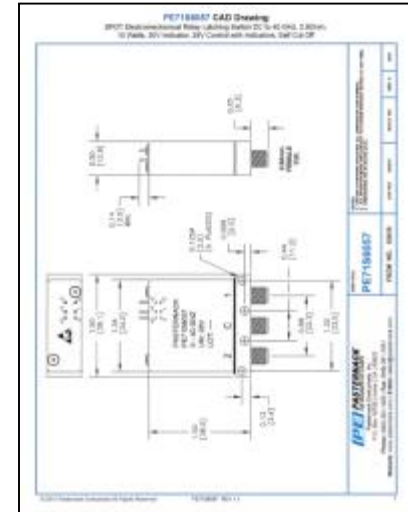
# Comprehensive Datasheets



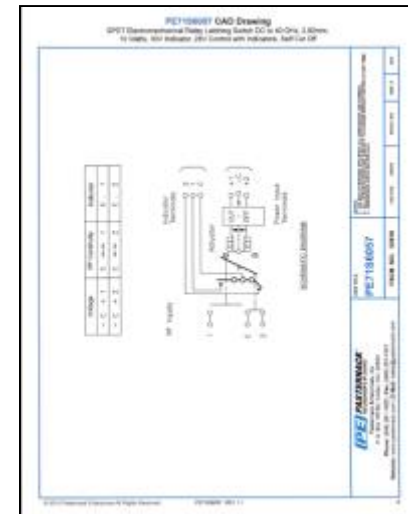
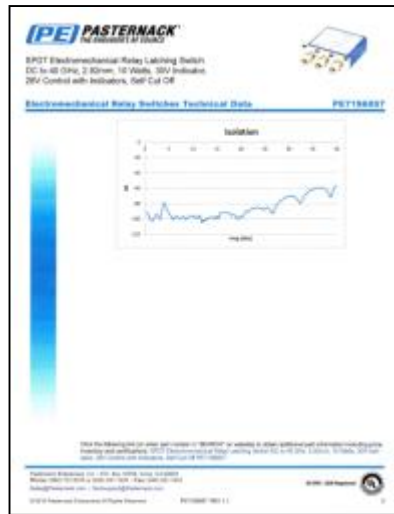
## Detailed Specifications



## Detailed Performance Graphs



## Detailed Outline & Schematic



# Purchasing On-line

[目录快速下单](#) | [登录](#) | [购物车](#) 5

400 928 5100

[产品](#)
[资源](#)

[主页](#) - [结账](#) -

标有“\*”的是必填字段。  
帐户及联络资料

## 结算方式

- ☐ 注册  
☒ 客人

## 联系信息

已经注册的顾客需要创建一个帐户, 请点击[这里](#)

\*您的电子邮箱:

## 开票和收货信息

### 开票地址

昵称:   
 \*名字:   
 \*姓氏:   
 \*联系电话:   
 职务:   
 公司名称:   
 国家: China (中国)  
 \*州/省:   
 \*城市:   
 \*详细地址:  最多35个字符  
 如果“详细地址”栏不够, 请在以下“详细地址”栏继续输入并填写完整的详细地址。  
 详细地址续:  最多35个字符  
 \*邮编:   
 地址类型:

### 送货地址

与帐户信息相同 ☐

昵称:   
 \*名字:   
 \*姓氏:   
 \*联系电话:   
 职务:   
 公司名称:   
 国家: China (中国)  
 \*州/省:   
 \*城市:   
 \*详细地址:  最多35个字符  
 如果“详细地址”栏不够, 请在以下“详细地址”栏继续输入并填写完整的详细地址。  
 详细地址续:  最多35个字符  
 \*邮编:   
 地址类型:

## Shipping and Invoice

## 发票信息

\*纳税人识别号:   
 \*开户银行:   
 \*帐号:

## 选择送货方式

订单金额小于人民币700元, 统一收取运费美金30元。  
 订单金额达到或超过人民币700元, 免运费。  
 运送时间大约4到5个工作日。

## 选择付款方式

### 付款方式

- ☒ 电汇 (关于银行汇款的信息将在邮件中告知。)  
☐ 支付宝  
☐ 银联

[完成购买](#)

## 订单摘要

产品	数量	单价	小计
	1	¥1,784.11	¥1,784.11
	1	¥7,382.50	¥7,382.50
	2	¥1,069.86	¥2,139.72
	1	¥233.77	¥233.77

## 订购备注

输入任何有关此订单的特殊说明或备注:

还可以输入超过250个字符。

小计: ¥11,540.10  
 增值税 (16%): ¥1,846.42  
 运费: ¥0.00  
 总计: ¥13,386.52

## Ordered Parts

# On-line support



**LET'S TALK RF**  
Application Engineers Are Standing By  
**Call or Chat Online!**

**250,000**  
**Custom Cable Assembly**  
**Configurations Available!**

**ALL SHIPPED SAME DAY!**



The Cable Creator™ 

Find the assembly you need or design your own from any combination of in stock compatible connectors and cables.

+Instructions

### Connector 1

Connector Type:  ☐

Gender:  ☐


Connector Body:  ☐

Polarity:  ☐

Impedance:  ☐


Mounting Method:  ☐

Attachment Method:  ☐

Products matching criteria: 1280 

Or select desired Part #

Part Number:  ☐



### Connector 2

Connector Type:  ☐

Gender:  ☐


Connector Body:  ☐

Polarity:  ☐

Impedance:  ☐


Mounting Method:  ☐

Attachment Method:  ☐

Products matching criteria: 1280 

Or select desired Part #

Part Number:  ☐



### Cable

Coax Type:  ☐

Max Frequency:  ☐


Max Loss:  ☐

Flex Type:  ☐


Impedance:  ☐

# of Shields:  ☐


Cable Color:  ☐




### Assembly Options

Clocking:   ☐

Lead Free Solder (optional) ☐

Heat Shrink (optional)  ☐



Only RoHS Components: ☐ Same as Connector 1: ☐

**Create My Cable Assembly**

# R&D Dilemma



**I NEED PARTS FOR PROTOTYPE BUT I ONLY NEED FEW PCS,  
HOW CAN I MEET MOQ?**

Pasternack—No MOQ



**I AM LOOKING FOR SOME ADAPTER FOR TESTING TO  
MATCH MY INSTRUMENT, DIFFICULT TO FIND.....**

Try to find it from Pasternack.  
Pasternack have 1767 part numbers for adapters,  
always have some part for you.



**I HAVE SOME CABLE ASSEMBLY BREAK DOWN/MISSING, I  
NEED TO GET THE SAME ONE IMMEDIATELY.**

Pasternack on-line support and cable creator can help  
you.



# Custom Cable Assembly

## Custom RF Cable Assemblies Shipped Same-Day



### Over 250,000 Custom RF Cable Configurations Available!

- Choose from over 1,300 RF coaxial connectors
- 114 coax cable types, including Twinax
- Choose your desired custom length (metric or standard)

Custom RF coaxial cable assemblies are built and ship same-day.

To design your own custom RF cable assemblies visit the Pasternack Cable Creator today!

The Cable Creator™

# R&D Dilemma



**I NEED PARTS FOR PROTOTYPE BUT I ONLY NEED FEW PCS,  
HOW CAN I MEET MOQ?**

Pasternack—No MOQ



**I AM LOOKING FOR SOME ADAPTER FOR TESTING TO  
MATCH MY INSTRUMENT, DIFFICULT TO FIND.....**

Try to find it from Pasternack.  
Pasternack have 1767 part numbers for adapters,  
always have some part for you.



**I HAVE SOME CABLE ASSEMBLY BREAK DOWN/MISSING, I  
NEED TO GET THE SAME ONE IMMEDIATELY.**

Pasternack on-line support and cable creator can help  
you.



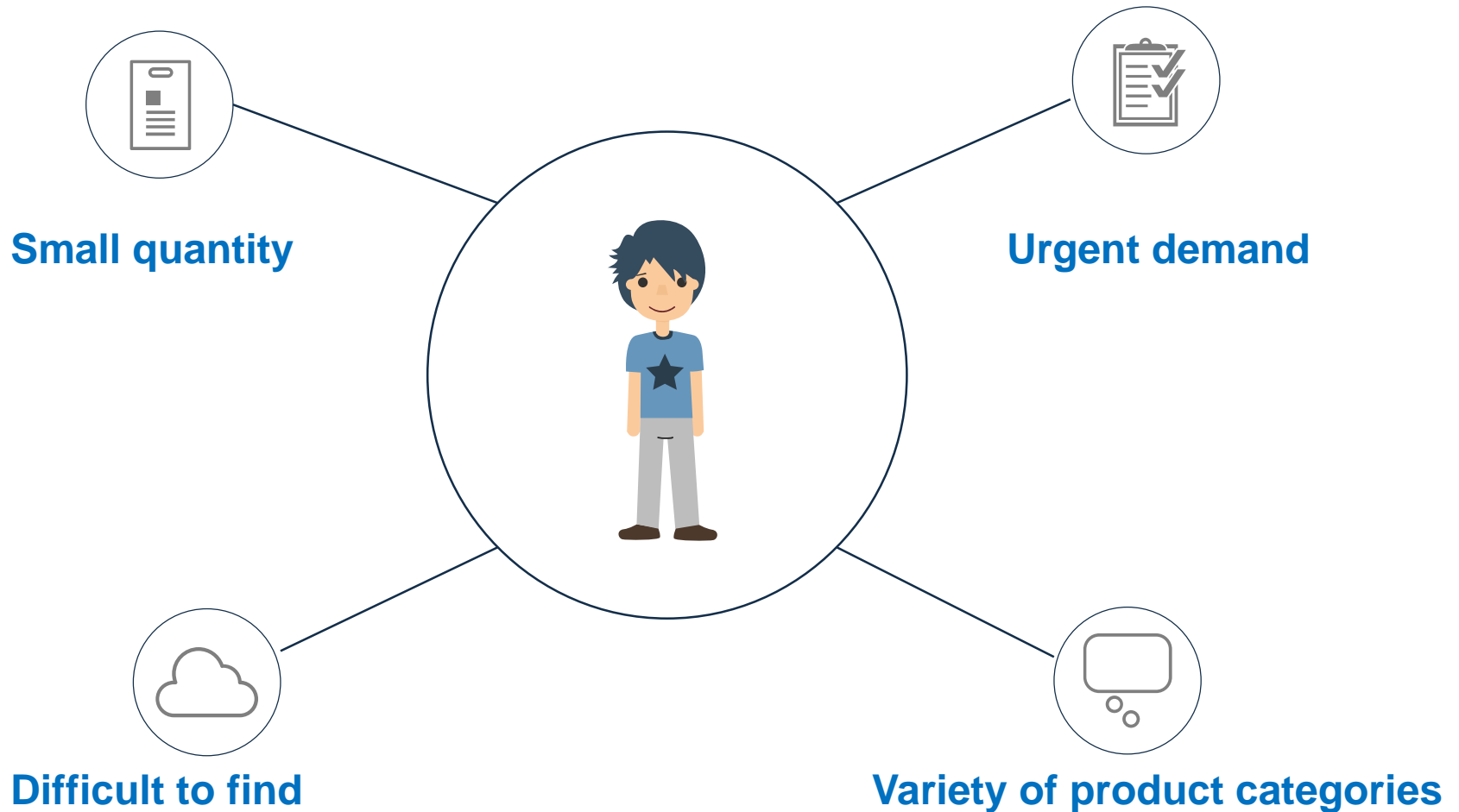
**I NEED TO PURCHASING VARIETY OF PARTS FOR PILOT  
PRODUCTION, ONE-STOP PURCHASE?**

Pasternack offer 48 product categories and over 40,000  
part numbers.

# Variety of Parts Order

编号:	产品	数量
PE350-50CM	SMA Male to SMA Male Cable 50 cm Length Using PE-P141 Coax with HeatShrink, LF Solder, RoHS	3
PE350-100CM	SMA Male to SMA Male Cable 100 cm Length Using PE-P141 Coax with HeatShrink, LF Solder	3
PE3613LF-100CM	SMA Male to BNC Male Cable Using RG400 Coax, RoHS	4
PE3087-24	BNC Male to BNC Male Cable 24 Inch Length Using RG223 Coax	4
PE3087-36	BNC Male to BNC Male Cable 36 Inch Length Using RG223 Coax	4
PE6156	2 Watt RF Load Up to 4 GHz With BNC Male Input Nickel Plated Brass	4
PE9084	BNC Female to BNC Female Adapter	4
PE9269	BNC Male to BNC Female Adapter	4
PE9507	Precision SMA Female to SMA Female Adapter, 27 Ghz	4
PE91135	SMA Male to SMA Male Adapter	4
PE9072	SMA Male to BNC Male Adapter	4
PE9073	SMA Female to BNC Male Adapter	4
PE9074	SMA Male to BNC Female Adapter	4
PE9075	SMA Female to BNC Female Adapter	4
PE9174	BNC Tee Adapter Male-Female-Female	4
PE9001	BNC Tee Adapter Female-Male-Female	4
PE9003	BNC Tee Adapter Female-Female-Female	4
PE9484	BNC Tee Adapter Male-Female-Female	4
PE9379	SMA Tee Adapter Male-Male-Male	4
PE9182	SMA Tee Adapter Female-Male-Female	4
PE9246	SMA Tee Adapter Female-Female-Female	4
PE9247	SMA Tee Adapter Male-Female-Male	4
PE33552-24	BNC Male to Banana Plug Cable 24 Inch Length Using RG58 Coax	4
PE9011	50 Ohm BNC Male to Double Banana Binding Post Jack Adapter	2
PE9013	Double Banana Binding Post Jack to 50 Ohm BNC Female Adapter	2
PE9009	Double Banana Plug to 50 Ohm BNC Male Adapter	2
PE9008	Double Banana Plug to 50 Ohm BNC Female Adapter	2
PE350-12	SMA Male to SMA Male Cable 12 Inch Length Using PE-P141 Coax with HeatShrink, LF Solder, RoHS	4

# R&D/Pilot Production Dilemma



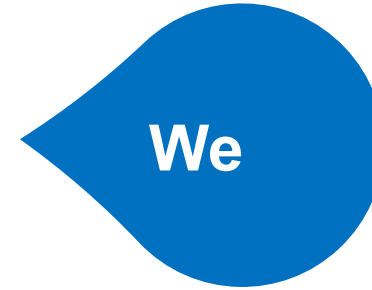
# Mass production Dilemma

---



-----

**Mass production has started, but some part was not well planned, we need to get it soon.**



-----

**Pasternack have some parts in common use, stock more than 10,000pcs, same day shipping.**

# Stock Quantity

产品编号PE6249



图片:



查看大图

库存数量: **美国** 1,636 **中国** 13,880 **总计**  15,516

## 价格表

数量	价格
1-24	¥123.75
25-49	¥121.27
50-99	¥118.80
100-249	¥116.32
250+	CALL

## 加入购物车

数量:

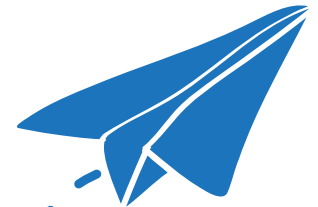
加入购物车



---

# Highlights

03



# MIL-DTL-17 Coax Cable Assemblies

Baluns

Bias Tees / DC Blocks

Cable Assemblies

Cables

Connectors

Connectors Accessories

Couplers

Educational Products

Filters

Frequency Multipliers / Dividers

High Reliability

Impedance Matching

Isolators / Circulators

## CABLE ASSEMBLIES

General Purpose Test Cables

Hi-Rel Cable Assemblies

Matched Cable Pairs and Sets

VNA Cables

1.0mm Cable Assemblies

1.6/5.6 75 Ohm Cable Assemblies

1.85mm Cable Assemblies

10-32 Cable Assemblies

2.4mm Cable Assemblies

2.92mm Cable Assemblies

3.5mm Cable Assemblies

3/4"-20 Twinax Cable Assemblies

MHV Cable Assemblies

Mini SMB 75 Ohm Cable Assemblies

Mini UHF Cable Assemblies

MMBX Cable Assemblies

MMCX Cable Assemblies

N 75 Ohm Cable Assemblies

N Cable Assemblies

NMO Mount Cable Assemblies

QMA Cable Assemblies

QN Cable Assemblies

RCA 75 Ohm Cable Assemblies

SC Cable Assemblies



CABLE ASSEMBLIES

Filters

Frequency Multipliers / Dividers

High Reliability

Impedance Matching

Isolators / Circulators

Limiters / Detectors

Mixers

Noise Sources

Oscillators / Synthesizers

Phase Shifters / Trimmers

Power Dividers / Combiners

Rotary Joints

Surge Protectors

Switches

## HIGH RELIABILITY

Amplifiers

Attenuators

Cable Assemblies

Detectors

Limiters

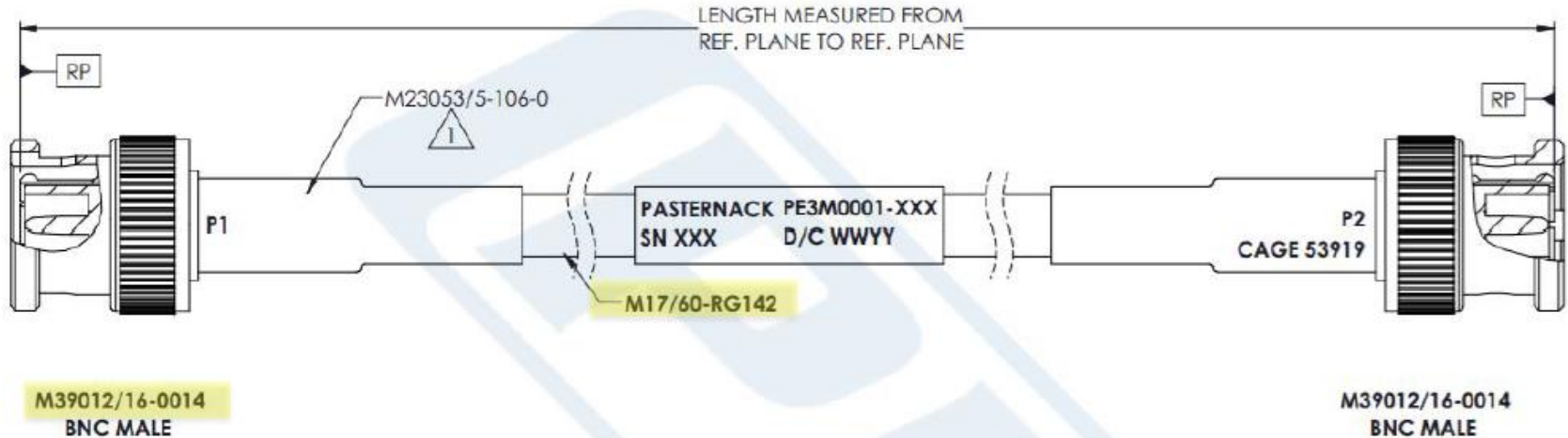
Switches



HIGH RELIABILITY

# Special Features

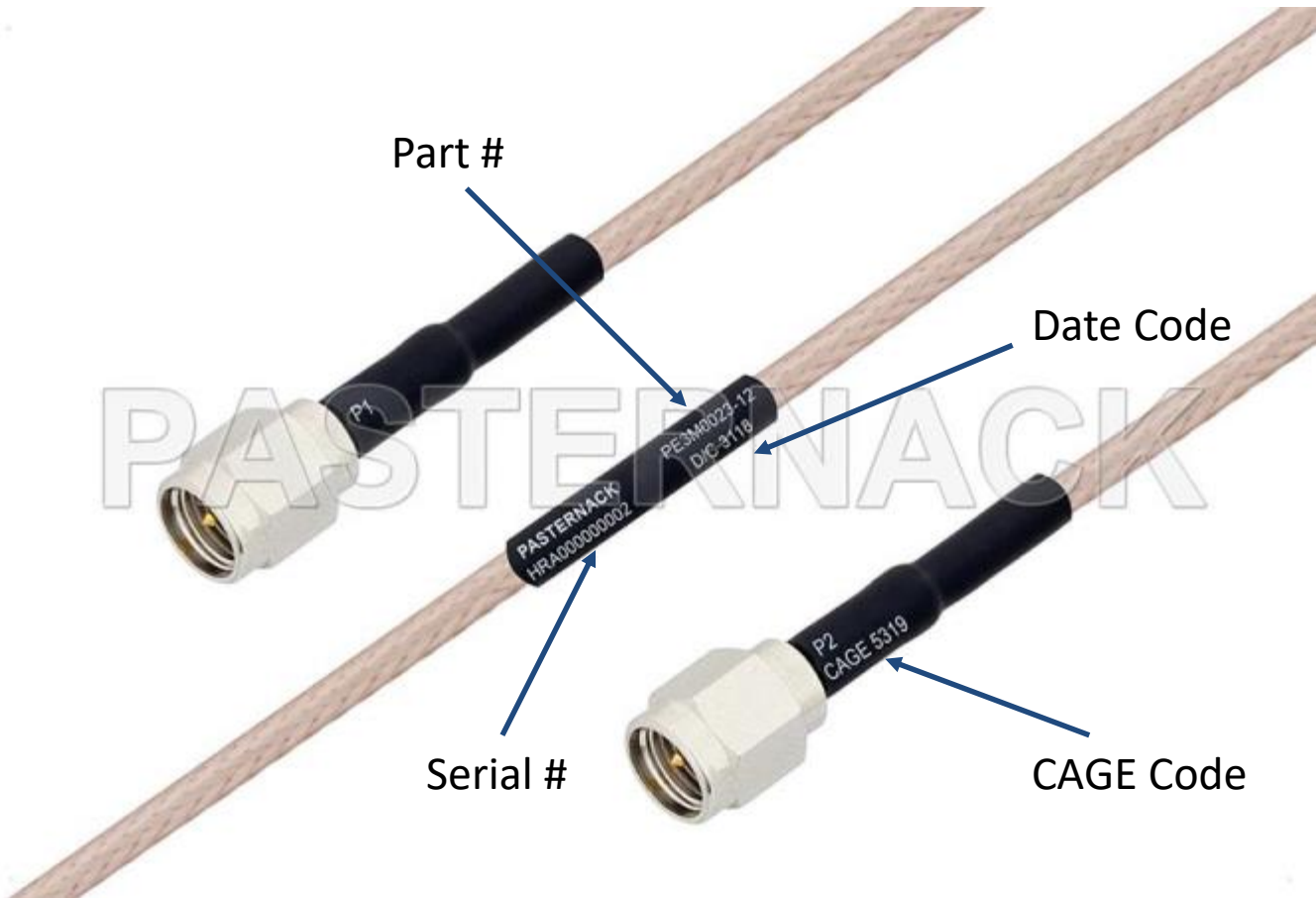
Qualified (QPL'd) cable and connectors



# MIL-DTL-17 Coax Cable Assemblies

Connector type: SMA, N,  
TNC, BNC

Cable type: RG58, RG142,  
RG174, RG223, RG316,  
RG400



No.	Description
PE3M0002-24	MIL-DTL-17 BNC Male to N Male Cable 24 Inch Length Using M17/60-RG142 Coax
PE3M0045-24	MIL-DTL-17 N Female to SMA Male Cable 24 Inch Length Using M17/84-RG223 Coax
PE3M0084-24	MIL-DTL-17 TNC Male to TNC Male Cable 24 Inch Length Using M17/128-RG400 Coax
PE3M0094-24	MIL-DTL-17 SMA Male Right Angle to SMA Female Bulkhead Cable 24 Inch Length Using M17/113-RG316 Coax

# MIL-DTL-17 Coax Cable Assemblies

---

## **J-STD-001 Soldering**

- An industry requirement (document) and set of criteria designed to improve the reliability of solder joints. Soldering personnel must be trained, certified and routinely re-certified by an approved trainer.

## **Lot Traceability**

- Having the systems and data available to trace a delivered product all the way back to the suppliers and supplier lot numbers for every material used. (connectors, cable, heat shrink, solder)

## **Port Designators**

- Abbreviations often assigned to cable assembly ports and other electronic components. These designators can be used in wiring diagrams to help the installers to connect their systems properly. Examples: P1 (meaning “Plug 1”) J2 (meaning “Jack 2”)













## **CAGE Code**

- A five-character ID number used extensively within the federal government, assigned by the Department of Defense’s Defense Logistics Agency (DLA). The CAGE Code supports a variety of mechanized systems throughout the government and provides a standardized method of identifying a given legal entity at a specific location. CAGE Code 53919 is assigned to Pasternack (our Irvine facility).

# RF Lighting / Surge Protector

www.pasternack.cn/nsearch.aspx?keywords=pe73sp&initial\_sort=selectASC&res\_per\_page=48&view\_type=grid

12 下一页 > 最后一页 >>

 Type N F/F In/Out Bulkhead Coax RF Surge Protector, 698MHz - 2.7GHz, DC Block, 500W, IP67, 40kA, Filter PE73SP1000 ¥588.06	 Type N F/M In/Out Bulkhead Coax RF Surge Protector, 698MHz - 2.7GHz, DC Block, 500W, IP67, 40kA, Filter PE73SP1001 ¥588.06	 Type N F/M In/Out Bulkhead Coax RF Surge Protector, 698MHz - 2.7GHz, DC Block, 500W, IP67, 40kA, Filter with Bracket PE73SP1002 ¥645.90	 Type N F/M In/Out Bulkhead Coax RF Surge Protector, 698MHz - 2.7GHz, DC Block, 500W, IP67, 40kA, Filter, Low PIM -155 dBc PE73SP1003 ¥682.44
 7/16 F/F In/Out Bulkhead Coax RF Surge Protector, 698MHz - 2.7GHz, DC Pass, 1000W, IP67, 20kA, Filter, Low PIM -155 dBc PE73SP1004 ¥823.22	 7/16 F/M In/Out Bulkhead Coax RF Surge Protector, 698MHz - 2.7GHz, DC Pass, 1000W, IP67, 20kA, Filter, Low PIM -155 dBc PE73SP1005 ¥823.22	 7/16 F/M In/Out Bulkhead Coax RF Surge Protector, 698MHz - 2.7GHz, DC Block, 500W, IP67, 40kA, Filter, Low PIM -155 dBc PE73SP1006 ¥812.46	 7/16 F/M In/Out Bulkhead Coax RF Surge Protector, 698MHz - 2.7GHz, DC Block, 500W, IP67, 40kA, Filter, Low PIM -155 dBc with Bracket PE73SP1007 ¥877.40
 7/16 F/M In/Out Bulkhead Coax RF Surge Protector, 698MHz - 2.7GHz, DC Block, 500W, IP67, 40kA, Filter, Low PIM -163 dBc with Bracket PE73SP1008 ¥823.22	 Type N F/F In/Out Coax RF Surge Protector, 800MHz - 2.5GHz, DC Pass, 300W, IP67, 20kA, Hybrid, Bracket Toward Body PE73SP1010 ¥823.22	 Type N M/F In/Out Coax RF Surge Protector, 800MHz - 2.5GHz, DC Pass, 300W, IP67, 20kA, Hybrid, Bracket Toward Body PE73SP1011 ¥823.22	 Type N F/F In/Out Coax RF Surge Protector, 800MHz - 2.5GHz, DC Pass, 300W, IP67, 20kA, Hybrid, Bracket Away from Arrestor PE73SP1013 ¥823.22

http://www.pasternack.cn/nsearch.aspx%3FCategory%3D5Surge%26Protectors%26sort%3Dy



# RF Lighting / Surge Protector

## Coaxial Devices for Protection of Wireless Communication Systems

### ***Ultra-Low PIM Protectors***

- PolyPhaser's ultra-low PIM surge protectors are specifically designed to minimize interferences
- Significantly lower PIM:  $\leq -155\text{dBC}$
- DC block and DC pass options



*TSX Series*

### ***Lightning Surge Arrestors***

- DC Block - designed to pass RF frequencies and effectively block all DC, while providing the industry's best RF performance
- DC Pass - engineered to allow current to pass to power Tower Top Amplifiers (TTA) or other active antenna systems where DC voltage is required (GPS, AISG)



*IS Series*

### ***Rail Filters***

- Band Pass Filters with integrated surge protection for railroad to allow for interoperability of radios
- Use on a locomotive or on the wayside



*RRF Series*

# RF Lighting / Surge Protector

<u>SX Family</u>		<u>IS-B50 Family</u>	
PE73SP1000	BI-DIRECTIONAL BROADBAND DC SH	PE73SP1020	BROADBAND 10MHz TO 1GHz N FEM
PE73SP1001	BI-DIRECTIONAL BROADBAND DC BL	PE73SP1021	BROADBAND 125-1000MHz R50
PE73SP1002	BI-DIRECTIONAL BROADBAND DC SH	PE73SP1022	BROADBAND 125-1000MHz R50
PE73SP1003	BI-DIRECTIONAL BROADBAND DC BL	PE73SP1023	BROADBAND 125-1000MHz R50
PE73SP1004	SX-DC PASS DIN FEM/FEM	PE73SP1024	BROADBAND 10-1000MHz R50
PE73SP1005	SX-DC-PASS-DIN MALE/FEM	PE73SP1025	BROADBAND 1.5-700MHz R50
PE73SP1006	BI-DIRECTIONAL BROADBAND DC	PE73SP1026	BROADBAND 1.5-700MHz R50
PE73SP1007	DC BLOCK 698MHZ-2.7GHZ DIN FEM	PE73SP1027	NUKE EMP 1.5MHz-700MHz
PE73SP1008	BI-DIRECTIONAL BROADBAND DC SH	PE73SP1028	BROADBAND 10MHz TO 1GHz N FEM
PE73SP1060		PE73SP1029	NUKE EMP 125MHz-1000MHz
PE73SP1051		PE73SP1030	BROADBAND 1.5-700MHz R50
<u>GX Family</u>		PE73SP1031	BROADBAND 125-1000MHz R50
PE73SP1010	800MHz-2500MHz BROADBAND	PE73SP1032	BROADBAND 1.5-700MHz R50
PE73SP1011		<u>VHF Family</u>	
PE73SP1013	800-2500MHz BROADBAND	PE73SP1033	100-512MHz VHF COMB 750W
PE73SP1014	800MHz-2500MHz BROADBAND	PE73SP1034	100-512MHz COMB 750W FEM DIN
PE73SP1015	1.75-400MHz +/-60V N CONN	PE73SP1035	100MHz TO 512MHz NFNF LID B
PE73SP1016	800-2500MHz BROADBAND	PE73SP1036	100MHz TO 512MHz NFNF LID B
PE73SP1017	800MHz-2500MHz BROADBAND	PE73SP1037	BI-DIRECTIONAL BROADBAND DC BL
PE73SP1018	1.75-400MHz +/-60V	<u>RRF Family</u>	
PE73SP1019	400-1200MHz BROADBAND	PE73SP1043	220MHz BAND PASS FILTER
<u>GT Family</u>		PE73SP1044	220MHz BAND PASS FILTER
PE73SP1038	GAS TUBE NON-REPLACABLE	PE73SP1045	160MHz BAND PASS FILTER
PE73SP1039	dc-3GHz IN-LINE EMP SURGE	PE73SP1046	160 MHz BAND PASS FILTER
PE73SP1040	DC PASS dc-2.4GHz OP60Vdc N FEM EL ANT N FEM EQ	PE73SP1047	450MHz BAND PASS FILTER
PE73SP1041	GAS TUBE NON-REPLACABLE dc-6GHz 50-100W N M/FEM	<u>WIFI Family</u>	
PE73SP1042	DC PASS dc-2.4GHz OP60Vdc N FEM ANT N MALE EQ	PE73SP1048	LOOP FILT 2-6GHz 10W
		PE73SP1049	LOOP FILT 2-6GHz 10W
		PE73SP1050	1.8-3.8GHz & 4.2-6.0GHz

# RF Lighting / Surge Protector

## GT Series (Gas Tube)

- Entry level products
- High volume, low cost
- Wide frequency band
- N, DIN, TNC and SMA connectors
- CE / RoHS compliant

## GX Series (Multi stage Hybrid)

- Ideal for GPS and PTP backhaul radio's
- Excellent surge performance
- Variety of clamping voltages
- N, DIN, TNC and SMA connectors
- CE / RoHS compliant.

## VHF Series

- Designed for VHF frequencies
- Available with a PIM rating.



# RF Lighting / Surge Protector

## B50/IS-50 Series

- Two way radio and SCADA type applications
- Available with N and UHF connectors,
- frequency range 1.5 MHz to 1000MHz.
- CE / RoHS compliant.

## SX Series (LC Filter)

- Used in critical communications systems such as public safety, rail and high power applications
- Used in multi channel/combining applications
- Superior performance
- PIM rated surge protection
- N ,DIN and 4.3/10 connectors
- Frequencies from 300 MHz to 10 GHz.

## RRF Series (RF Filter)

- Designed for railroad PTC/GSMR systems.
- Reduces from alt radio co-location GSMR. Offers -60dB band rejection.



# RF Lighting / Surge Protector

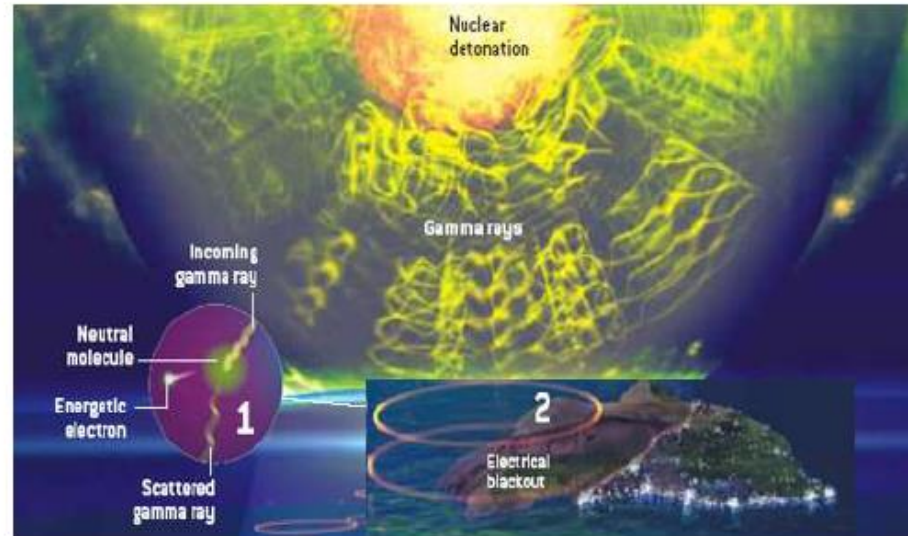
---

## Where Are They Used – Everywhere Coax is used

- Telecommunication Site
  - For Cellular, GSM, Paging, CDMA, UMTS, 4G, LTE and BWA (WiMAX)
- Data Collection
  - Oil & Gas, AMI / AMR for Electric ,Gas and Water, SCADA, PLC, Mining, Geo Exploration, Weather Monitoring, Remote Irrigation
- LMR (Land Mobile Radio)
  - First Responder, Hospitals, Airports, HAM Radio, Private Networks
- Broadcast
  - Satellite, TV, Radio
- Transportation
  - Planes, Trains, Automotive Fleets, Boats, Traffic control, and Communication signs

# Application Overview

- Disruptive nature of High Altitude Electromagnetic Pulse (HEMP) understood since the 1960's
- U.S. Dept of Homeland Security released EMP Protection Guidelines for Equipment and Facilities in 2016
- EMP surge protection is one of the key recommendations for civil infrastructure



**Electromagnetic Pulse (EMP) Protection  
and Restoration Guidelines for  
Equipment and Facilities**



# Application Overview

## EMP Protection Zone Concept

- DHS EMP protection guidelines define measures to support system time to recovery after exposure to an event

LEVEL 2 HOURS	LEVEL 3 MINUTES	LEVEL 4 SECONDS
In addition to Level 1, use EMP rated surge protection devices (SPDs) on power cords, antenna and data cables and have EMP protected back-up power. Use SPDs (1 nanosecond or better response time) to protect critical equipment. Use true line/double-conversion uninterruptible power supplies (UPS). Use fiber optic cables (with no metal); otherwise use shielded cables and ferrites/SPDs. Shielded racks/rooms	In addition to Level 2, use civil EMP protection standards (like IEC SC 77C). Use EMP shielded racks/rooms and/or facilities to protect critical computers, data centers, phone switches, industrial and substation controls and other electronics. Shielding should be 30-80 dB of protection thru 10 GHz. Use SPDs to protect equipment outside of shielded areas. Can use single-door EMP-safe entryways. Use ITU and IEC EMP standards for	Use Military EMP Standards (MIL-STD-188-125-1 and MIL-HDBK-423), and 80+ dB hardening thru 10 GHz. Use EMP/RFW shielding in rooms, racks, and/or buildings to protect critical equipment. Use EMP SPDs to protect equipment outside of shielded area. Use EMP protected double-door entryways. Have 30+ days of supplies and EMP protected back-up power (to include on-site fuel) for critical systems. Don't rely on



- Transtector and PolyPhaser, global leaders in EMP protection technology, are launching a new product series that has been designed and tested to meet these guidelines



# High Performance Interconnect Products

---



Adapters



Cables



Cable Assemblies



Connectors



Connectors Accessories



Calibration Standards  
& Kits



VNA Test Cables



Shorts & Caps



Tools



Torque Wrenches

+  
thousands more  
available today.

# High Performance Passive Products



Attenuators(Fixed)



Antennas



Couplers



Circulators



DC Blocks



Filters



Power Dividers



Hybrids



Isolators



Gain Horns



Matching Pads



Terminations



Waveguide  
Components

+  
thousands more  
available today.

# High Performance Active Products

---



60 GHz System &  
Modules



Amplifiers



Detectors



Electromechanical  
Switches



Frequency Doublers



Limiters



Noise Generators



PIN Diode Switches



Mixers



Waveguides  
Components

+  
thousands more  
available today.

# 感谢一路有你

T H A N K Y O U

Sophia Xu

-----● Sophia.xu@Pasternack.com ●-----